

PART 1 - GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

THE ALUMINUM ASSOCIATION, INCORPORATED (AA)

AA 45 (1993) Aluminum Finishes

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA/NWWDA
101/I.S.2 (1997) Voluntary Specification for Aluminum, Vinyl (PVC), and Wood Windows and Glass Doors

AAMA 611 (1998) Voluntary Specification for Anodized Architectural Aluminum

AAMA 1503.1 (1988) Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections

1.2 CERTIFICATION

Each prime window unit shall bear the AAMA Label warranting that the product complies with AAMA/NWWDA 101/I.S.2. Certified test reports attesting that the prime window units meet the requirements of AAMA/NWWDA 101/I.S.2, including test size, will be acceptable in lieu of product labeling.

1.3 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittals Procedures." Refer to paragraph entitled "Quality Assurance" for further submittal explanation.

1.3.1 SD-02, Shop Drawings

- a. Windows

1.3.2 SD-03, Product Data

- a. Windows
- b. Hardware
- c. Fasteners
- d. Weatherstripping
- e. Accessories

1.3.4 SD-04, Samples

- a. Finish Sample

1.3.5 SD-05, Design Data

- a. Structural calculations for deflection

1.4 QUALITY ASSURANCE

1.4.1 Shop Drawing Requirements

Drawings shall indicate elevations of windows, full-size sections, thickness and gages of metal, fastenings, proposed method of anchoring, size and spacing of anchors, details of construction, method of glazing, details of operating hardware, mullion details, method and materials for weatherstripping, material and method of attaching subframes, casings, sills, trim, window cleaner anchors, installation details, and other related items.

1.4.2 Sample Requirements

1.4.2.1 Finish Sample Requirements

Submit color chart of standard factory color coatings when factory-finish color coating is to be provided.

1.4.3 Design Data Requirements

Submit calculations to substantiate compliance with deflection requirements. Calculations shall be provided by a Professional Engineer.

1.4.4 Test Report Requirements

Submit test reports for each type of window attesting that identical windows have been tested and meet the requirements specified herein for conformance to AAMA/NWWDA 101/I.S.2 including test size, (minimum condensation resistance factor (CRF)).

1.5 DELIVERY AND STORAGE

Deliver windows to project site in an undamaged condition. Use care in handling and hoisting windows during transportation and at the jobsite. Store windows and components out of contact with the ground, under a weathertight covering, so as to prevent bending, warping, or otherwise damaging the windows. Damaged windows shall be repaired to an "as new" condition as approved. If windows can not be repaired, provide a new unit.

1.6 PROTECTION

Protect finished surfaces during shipping and handling using the manufacturer's standard method, except that no coatings or lacquers shall be applied to surfaces to which calking and glazing compounds must adhere.

PART 2 - PRODUCTS

2.1 WINDOWS

Prime windows shall comply with AAMA/NWWDA 101/I.S.2 and the requirements specified herein. In addition to compliance with AAMA/NWWDA 101/I.S.2, window framing members for each individual lite of glass shall not deflect to the extent that deflection perpendicular to the glass lite exceeds $L/175$ of the glass edge length when subjected to uniform loads at specified design pressures. Structural calculations for deflection shall be provided to substantiate compliance with deflection requirements. Provide windows of types, performance classes, performance grades, combinations, and sizes indicated or specified. Design windows to accommodate hardware, glass, weatherstripping, screens, and accessories to be furnished. Each window shall be a complete factory assembled unit with or without glass installed.

Dimensions shown are minimum. Provide windows with insulating glass and thermal break necessary to achieve a minimum Condensation Resistance Factor (CRF) of 40 when tested in accordance with AAMA 1503.1.

2.1.1 Fixed Windows (F)

Type F-HC40

2.1.2 Glass and Glazing

Materials are specified in Section 08800, "Glazing."

2.1.3 Calking and Sealing

Are specified in Section 07920, "Joint Sealants."

2.1.4 Weatherstripping

AAMA/NWWDA 101/I.S.2.

2.2 FABRICATION

Fabrication of window units shall comply with AAMA/NWWDA 101/I.S.2.

2.2.1 Provisions for Glazing

Design windows and rabbets suitable for glass thickness shown or specified. Design sash for double glazing and for securing glass with glazing channels.

2.2.2 Weatherstripping

Provide for ventilating sections of all windows to ensure a weather-tight seal meeting the infiltration requirements specified in AAMA/NWWDA 101/I.S.2.

Provide easily replaceable factory-applied weatherstripping. Use molded vinyl, molded or molded-expanded neoprene or molded or expanded Ethylene Propylene Diene Terpolymer (EPDM) weatherstripping for compression contact surfaces. Use treated woven pile or wool, or polypropylene or nylon pile bonded to nylon fabric and metal or plastic backing strip weatherstripping for sliding surfaces. Do not use neoprene or polyvinylchloride weatherstripping where they will be exposed to direct sunlight.

2.2.3 Fasteners

Use fasteners as standard with the window manufacturer for windows, trim, and accessories. Self-tapping sheet-metal screws are not acceptable for material more than 1/16 inch thick.

2.2.4 Drips and Weep Holes

Provide drips and weep holes as required to return water to the outside.

2.2.5 Combination Windows

Windows used in combination shall be the same class and grade and shall be factory assembled. Where factory assembly of individual windows into larger units is limited by transportation considerations, prefabricate, match mark, transport, and field assemble.

2.2.6 Mullions and Transom Bars

Provide mullions between multiple window units which meet the design pressure of 40 psf. Provide mullions with a structural thermal break. Secure mullions and transom bars to adjoining construction and window units in such a manner as to permit expansion and contraction and to form a weathertight joint. Where window cleaner anchors are required, reinforce mullions and anchor to adjoining construction so as to provide safe and adequate support. Provide mullion covers on the interior and exterior to completely close exposed joints and recesses between window units and to present a neat appearance.

2.2.7 Accessories

Provide windows complete with necessary hardware, fastenings, clips, fins, anchors, glazing beads, and other appurtenances necessary for complete installation and proper operation.

2.2.7.1 Hardware

AAMA/NWDA 101/IS.2. The item, type, and functional characteristics shall be the manufacturer's standard for the particular window type. Provide hardware of suitable design and of sufficient strength to perform the function for which it is used. Equip all operating ventilators with a lock or latching device which can be secured from the inside.

2.2.7.2 Fasteners

Provide concealed anchors of the type recommended by the window manufacturer for the specific type of construction. Anchors and fasteners shall be compatible with the window and the adjoining construction. Provide a minimum of three anchors for each jamb located approximately 6 inches from each end and at midpoint.

2.2.7.3 Window-Cleaner Anchors

Provide double head anchors for windows specified. Anchors shall be stainless steel of size and design required for the window type and application. Provide two anchors for each single window and each adjacent fixed glass window unit. Fasten anchors 44 inches above the window sill utilizing appropriate methods for the window type and application in accordance with industry safety standards.

2.2.8 Finishes

Exposed aluminum surfaces shall be factory finished with an anodic coating. Color shall be as indicated. All windows shall have the same finish.

Clean exposed aluminum surfaces and provide an anodized finish conforming to AA 45 and AAMA 611. Finish shall be:

- a. Architectural Class I (0.4 mil to 0.7 mil), designation AA-M12-C22-A42/44, dark bronze.

PART 3 - EXECUTION

3.1 INSTALLATION

3.1.1 Method of Installation

Install in accordance with the window manufacturer's printed instructions and details. Build in windows as the work progresses or install without forcing into prepared window openings. Set windows at proper elevation, location, and reveal; plumb, square, level, and in alignment; and brace, strut, and stay properly to prevent distortion and misalignment. Protect ventilators and operating parts against accumulation of dirt and building materials by keeping ventilators tightly closed and locked to frame. Bed screws or bolts in sill members, joints at mullions, contacts of windows with sills, built-in fins, and subframes in mastic sealant of a type recommended by the window manufacturer. Install windows in a manner that will prevent entrance of water and wind.

3.1.2 Dissimilar Materials

Where aluminum surfaces are in contact with, or fastened to masonry, concrete, wood, or dissimilar metals, except stainless steel or zinc, the aluminum surface shall be protected from dissimilar materials as recommended in the Appendix to AAMA/NWWDA 101/I.S.2. Surfaces in contact with sealants after installation shall not be coated with any type of protective material.

3.1.3 Anchors and Fastenings

Make provision for securing units to each other, to masonry, and to other adjoining construction. Windows installed in masonry walls shall have head and jamb members designed to recess into masonry wall not less than 7/16 inch.

3.1.4 Adjustments After Installation

After installation of windows and completion of glazing and field painting, adjust all ventilators and hardware to operate smoothly and to provide weathertight sealing when ventilators are closed and locked. Lubricate hardware and operating parts as necessary.

3.2 CLEANING

Clean interior and exterior surfaces of window units of mortar, plaster, paint spattering spots, and other foreign matter to present a neat appearance, to prevent fouling of weathering surfaces and weather-stripping, and to prevent interference with the operation of hardware. Replace all stained, discolored, or abraded windows that cannot be restored to their original condition with new windows.

END OF SECTION